written fourthly is a voice packet P4, ···, the voice packet written 100thly is a voice packet P 100, the voice packet written 101stly is a voice packet P101, and the voice packet written lastly is a voice packet P102.

In this state, 102 voice packets PI are stored in the buffer memory 32. The queue length can be expressed as 102 packets if expressed by the number of packets, and the time of decoded voice output can be expressed as 1.02 seconds (=102×10 milliseconds) if expressed by time.

Therefore, in Fig. 2, the rightmost voice packet is the earliest in the time of writing and reading, and the leftmost voice packet is the latest in writing and reading. A blank part at the left in the buffer memory 32 corresponds to a buffer area where a voice packet has not yet been written at that time though it is in a state of being able to write a voice packet.

In this embodiment, two thresholds TH and TL of higher and lower ones are set in the buffer memory 32. The lower threshold TL is set at a position that corresponds to the top position described in the problem that the invention intends to solve, i.e., at a position that corresponds to the intermediate queue length between the 1-packet and 0-packet.

On a basis of a lower threshold TL, it is detected that the queue length has reached a state of not being one packet in the present reading and that nonexistence of a packet to be read, i.e., exhaustion (of voice packets) has

occurred in the next reading after the lapse of the decoding unit time.

The higher threshold TH is set at a position that corresponds to the intermediate queue length between the 100th packet and the 99th packet, for example. The position of the higher threshold TH can be statically changed upward or downward if necessary.

The queue length detector 30 that monitors the relationship between the queue length in the buffer memory 32 and the two thresholds TH and TL is disposed between the buffer memory 32, the complementary-packet inserting device 19, and the packet deleting device 20. When the queue length becomes shorter than the lower threshold TL, the queue length detector 30 causes the complementary-packet inserting device 19 to insert a complementary packet PP into the top position, and, when the queue length becomes longer than the higher threshold TH, the queue length detector 30 causes the packet deleting device 20 to delete a voice packet from an appropriate position on the queue.

Therefore, the queue length detector 32 detects a queue length by the use of a detection signal D1 supplied from the buffer memory 32, and switches a control signal C2 supplied to the complementary-packet inserting device 19 from an inactive state to an active state, thereby instructing the complementary-packet inserting device 19 to insert the complementary packet PP. Likewise, the queue length detector 32 switches a control signal C4 supplied to

the packet deleting device 20 from an inactive state to an active state, thereby instructing the packet deleting device 20 to delete the voice packet.

As a concrete example of the detection signal D1, it can be mentioned that use is made of a difference obtained by subtracting the number of times of reading of voice packets PI (PO) from the number of times of writing of voice packets PI onto the buffer memory 32.

This queue length detector 30 also switches a control signal C3 supplied to the scanning reader 31 from an inactive state to an active state, and thereby makes the scanning reader 31 active, and reads a scanning signal SC from the buffer memory 32.

When the control signal C3 supplied from the queue length detector 30 changes from the inactive state to the active state, the scanning reader 31 connected to the queue length detector 30 switches a control signal C1 output to the buffer memory 32 from an inactive state to an active state, and reads voice packets that constitute a queue at that time one after another, and supplies a scanning signal SC that consists of the read voice packets to the packet deleting device 20.

The voice packets PI that constitute the scanning signal SC must be read in a sufficiently shorter time than the aforementioned decoding unit time. For example, the period of time can be to read about 100 voice packets PI during 1 decoding unit time.